

(12) **EUROPEAN PATENT APPLICATION**

(21) Application number: 80830027.1

(51) Int. Cl.³: F 15 B 13/01

(22) Date of filing: 06.05.80

(30) Priority: 18.05.79 IT 6806179

(43) Date of publication of application:
26.11.80 Bulletin 80/24

(88) Date of deferred publication of search report: 22.04.81

(84) Designated Contracting States:
AT BE CH DE FR GB IT LU NL SE

(71) Applicant: CHS GIUSEPPE CINOTTO HYDRAULIC
SYSTEM S.p.A.
Strada Statale 460 km 36
Regione San Martino I-10087 Valperga (Torino)(IT)

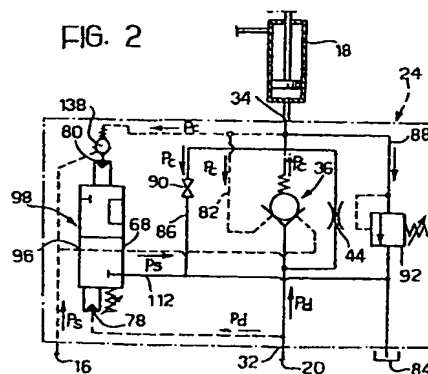
(72) Inventor: Cinotto, Giuseppe
Via Verdi 12
I-10082 Cuorgné (Torino)(IT)

(74) Representative: Jacobacci, Filippo et al,
c/o Jacobacci-CASETTA & PERANI S.n.c. Via Alfieri, 17
I-10121 Torino(IT)

(64) Safety device for hydraulic circuits.

(57) A safety device (24) is provided for use, for example, in conjunction with a double-acting hydraulic actuator (18) operating a lifting arm. The safety device (24) is interposed between the actuator (18) and the fluid line (20) along which fluid is supplied to raise the arm. In the event of accidental rupturing of this fluid line (20), the safety device (24) operates to prevent uncontrolled lowering of the arm. The device (24) has a working section which comprises a non-return valve (36) inserted in said line (20) such as to normally only allow fluid into the actuator (18), and control means selectively operable to inhibit the non-return valve (36) and permit fluid to exit from the actuator (18). The control means is itself controlled from a controlling section of the device (24) in such a manner that the control means only operates in the presence both of a control pressure signal (P_c) indicating that the arm is to be lowered, and of normal operating pressures in said line (20).

FIG. 2





European Patent
Office

EUROPEAN SEARCH REPORT

9597

Application number

EP 80 83 0027

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
	<u>US - A - 3 500 721 (ALLEN)</u> * Column 2, line 36 - column 4, line 53 *	1,9	F 15 B 13/01
	--		
	<u>DE - A - 2 424 973 (MONTAN-HYDRAULIK)</u> * Figures *	1,9	
	--		
	<u>FR - A - 2 231 910 (GRIFFET)</u> * Figure 3 *	1, 15	TECHNICAL FIELDS SEARCHED (Int.Cl. 3)
	--		F 15 B
	<u>FR - A - 2 312 676 (CATERPILLAR)</u> * Figure 1 *	14	
	& US - A - 4 000 683		
	--		
A	<u>DE - A - 2 209 506 (MONTAN-HYDRAULIK)</u>		
A	<u>US - A - 3 164 171 (HASBANY)</u>		

The present search report has been drawn up for all claims			CATEGORY OF CITED DOCUMENTS
			X: particularly relevant A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: conflicting application D: document cited in the application L: citation for other reasons
			&: member of the same patent family, corresponding document
Place of search	Date of completion of the search	Examiner	
The Hague	23-01-1981	THOMANN	